IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-25 (Canceled)

26.(New) An activity monitor comprising:

a measurement unit including a plurality of motion sensors configured to produce sensor signals indicative of motion of the plurality of motion sensors; and

a processor configured to receive the sensor signals from the measurement unit, and to process the sensor signals as vector components of a vector to produce a magnitude of the vector using a lookup table of stored magnitudes and associated vector components.

27.(New) The activity monitor of claim 26, wherein the motion sensors are accelerometers.

28.(New) The activity monitor of claim 26, wherein the motion sensors are arranged to be mutually orthogonal.

29.(New) The activity monitor of claim 26, wherein the processor is further configured to calculate the magnitude of the vector according to the following expression:

$$|a| = \sqrt{(a_x^2 + a_y^2 + a_z^2)},$$

where $|a|$ is a magnitude of a resultant vector, a_x, a_y and a_z are the vector components included in the sensor signals.

30.(New) The activity monitor of claim 26, wherein the processor is further configured to calculate a direction of the vector.

31.(New) A method of monitoring activity comprising the acts of:

producing sensor signals indicative of motion of a plurality of motion sensors; and

processing the sensor signals as vector components of a vector to produce a magnitude of the vector using a lookup table of stored magnitudes and associated vector components.

32. (New) The method of claim 31, wherein the motion sensors are accelerometers.

33. (New) The method of claim 31, further comprising the act of arranging the motion sensors to be mutually orthogonal.

34. (New) The method of claim 31, wherein the processing act further includes the act of calculating the magnitude of the vector according to the following expression:

$$|a| = \sqrt{(a_x^2 + a_y^2 + a_z^2)},$$

where $|a|$ is the magnitude of the vector, a_x, a_y and a_z are the vector components included in the sensor signals.

35. (New) The method of claim 31, further comprising the act of calculating a direction of the vector.